

## ABSTRACT

A reconfigurable inspection apparatus for inspecting a surface finish of a cylinder bore or other machined surface. The apparatus may include a reconfigurable multi-spindle apparatus supporting a plurality of inspection probes. Each probe may include a laser that directs a laser beam perpendicularly to the machined surface, and a detector positioned at an angle to the laser beam to detect scattered laser light from the surface. The probe may also include a computer system including software that compares the detected scattered light to a scattered light signature from a first-type finishing mark and to a scattered light signature from a second-type finishing mark and determines a condition of the surface finish.